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Current Problems

Number 11

A REVIEW OF THE ORNITHOLOGY OF MINNESOTA

BY

THOMAS SADLER ROBERTS, M.D.

Professor of Ornithology and Curator of the Zoological Museum
in the University of Minnesota



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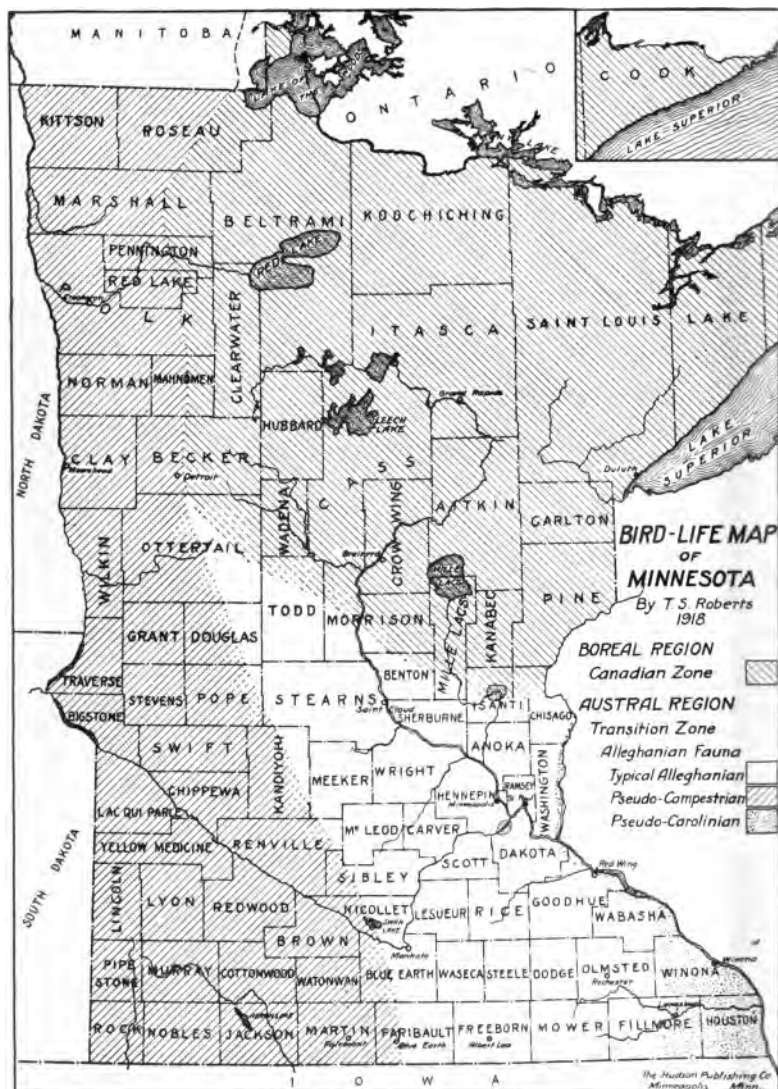
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Unless otherwise stated the illustrations are from photographs from nature by the author. The photographs of Museum groups are from exhibits in the Museum of the Zoological Division of the Geological and Natural History Survey of Minnesota located in the Animal Biology Building, University of Minnesota, Minneapolis. The groups were constructed by Mr. Jenness Richardson, Museum taxidermist. The Museum is open to the general public.

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A REVIEW OF THE ORNITHOLOGY OF MINNESOTA

INTRODUCTION

This attempt at a "Review of the Ornithology of Minnesota" is the outgrowth of an original plan to prepare a simple Check-List of the birds occurring in the state for the use of the classes in bird study at the University of Minnesota. But when such a list had been completed it seemed so inadequate that one addition after another was made to it until the present paper was the result. As there have been many requests of late years, with the rapidly growing interest in bird study, for an up-to-date statement in regard to Minnesota birds, it is hoped that in its present form this analysis may serve to fill the wider field as well. For the most part the matter is presented in simple and popular form as it is intended primarily for the amateur and non-technical student. Except in the List of Accidental and Rare Birds, common names only are employed, those presented in the 1910 Check-List of the American Ornithologists Union being always given first place, though frequently there are included one or more additional names when such are in current use or likely to be encountered in literature. The A. O. U. names are further distinguished by being printed in a different type from the others. As a matter of fact, these authorized *Common Names* are, at present, really more satisfactory to the general student than the Scientific Names, as many of the latter are undergoing constant changes in an effort to arrive at a stable nomenclature that shall in the end be in accord with all the requirements of the official Code.

It may appear on first thought that the separation of the species into several lists is a mistake and will cause bewilderment and confusion. This plan has been adopted in the belief that it will impress upon the student the exact status of each bird more clearly than would the usual single list. Brevity and lack of repetition in annotation are also secured by this arrangement. The presence of an index will obviate the chief objection and make it easy to locate in its assigned place any particular species.

Subspecies or geographical varieties or forms have been recognized and included in this paper because they will be encountered in the bird books that students must use. Very often the dis-

tinctions between such forms are so slight that it will not be possible for the amateur to recognize them by any means ordinarily at hand. The differentiation can usually be made only by a technical ornithologist with the aid of selected series of specimens. A careful observance of the boundaries limiting the distribution of the various subspecies or forms as laid down in works on ornithology is the only means available to the beginner for determining the special form that should occur in any particular locality. It is advised that the bird-lover and amateur student pay no attention to these ultra refinements in classification, leaving them to be wrestled with by those more advanced in the science of ornithology. Let a Horned Lark be a Horned Lark, a Flicker a Flicker, a Great Horned Owl a Great Horned Owl, and so on without confusion of ideas or multiplication of terms when differences are only technical subspecific ones.

It is not within the scope of the present publication to include nesting and migration dates, extended notes or means of identifying species. Such matter, it is hoped, may be embodied at a future date in a more extended work on the birds of Minnesota. Attention may be called to the presence of nesting and migration dates for southeastern Minnesota in Chapman's *Handbook of Birds of Eastern North America*. These were furnished by the writer of this paper and are distributed through the *Handbook* under each species reported upon.

In answer to many inquiries as to the best book or books to procure for identifying our birds, the following may be suggested as well suited to the needs of the general student. For the beginner and casual observer, there is perhaps nothing better than Chester A. Reed's *Guides to the Birds East of the Rockies*. It is issued in two parts—Land Birds and Water Birds. They are small oblong books, five and a half by three and a quarter inches in size, and contain brief but satisfactory descriptions and small colored illustrations of all the birds occurring in Minnesota. Their small size permits of their being easily carried in the field. They sell for one dollar each in flexible cloth and twenty-five cents extra in flexible leather binding. For the more advanced and serious student there is no more practical and satisfactory book than Dr. Frank M. Chapman's *Handbook of Birds of Eastern North America*. It contains an introduction of one hundred pages covering in popular style the general subject of ornithology in its various aspects, followed by keys for identification, descriptions, ranges,

brief biographies, etc., and numerous illustrations. The price is four dollars in library cloth binding and four dollars and twenty-five cents in flexible leather binding. The size of the book in the latter form is the same as this publication, a convenient volume for carrying afield in the pocket or bag if so desired. Both Reed's and Chapman's books can usually be purchased of booksellers, or if not, of The National Association of Audubon Societies, 1974 Broadway, New York City. There are of course many other publications that are of value in studying our birds, but these two fill very well the needs of the student, in the beginning at least. The Bibliography presented herewith will furnish to those interested the titles and whereabouts of many articles dealing especially with Minnesota birds.

The life-zone map accompanying this article is provisional only, based on such information as has been accumulated to date in regard to the distribution of Minnesota birds in the nesting season. No attempt has been made to indicate minor irregularities in the boundary lines of the several areas, as this would be impracticable in so small a map. Therefore the outlines here depicted are to be taken in a general sense only. The eastern boundary of what is designated the Pseudo-Campestrian is especially uncertain and will probably require some changes, particularly in its southern half. For the information of those who are not familiar with the subject of life zones, it may be stated that it is the regular and common *nesting* bird population that imparts distinction to an area, the transients and accidental or rare birds being in no way considered. Plants and all forms of animal life in addition to birds are equally considered in defining life zones and areas.

The illustrations grouped at the end of this volume are from original photographs in the collection of the Zoological Survey, except the picture of the Horned Lark which is from a drawing made for the Survey by Kako Morita. All but two have been used before to illustrate articles by the writer published in *The Minnesotan*, and are here reproduced from the same half-tone blocks, which were kindly presented to the Museum by the editors, Mr. and Mrs. Maurice I. Flagg.

The sources of information upon which this Review is based are published records and a considerable accumulation of local lists and notes in the files of the Zoological Division of The Geological and Natural History Survey of Minnesota. The author's

records, covering a period of forty odd years during which he has been studying Minnesota birds, have been largely augmented by correspondence and lists generously furnished by numerous observers in the state to whom it is desired in this connection to express appreciative thanks for their kind and invaluable assistance. The Biological Survey at Washington has also from time to time very courteously permitted the transcription from its files of all reports from Minnesota observers. Mr. Carlos Avery, Game and Fish Commissioner of Minnesota, has kindly furnished the list of Game Refuges with area of each and also the map showing their location. I have to thank Dr. Witmer Stone, of Philadelphia, editor of *The Auk*, for advice in regard to several important matters. For the carefully prepared Index and assistance in many other ways, the author is indebted to his friend Mr. William Kilgore, Jr.

ANIMAL BIOLOGY BUILDING,
UNIVERSITY OF MINNESOTA,
MINNEAPOLIS, MINNESOTA.



Young Rose-breasted Grosbeaks

A SYNOPSIS OF THE BIRD LIFE OF MINNESOTA

MINNESOTA AS A HOME FOR BIRDS

Minnesota, with its vast area of 84,286 square miles of territory and its greatly diversified surface, presents favorable conditions for an abundant and a varied bird life. North and south—four hundred miles—it spans the line which separates the boreal evergreen forests from the deciduous woods and groves of the warmer regions to the southward. Each affords a characteristic assortment of resident and breeding birds. East and west—three hundred fifty-seven miles at the Canadian boundary, one hundred eighty miles at the narrowest part—the state overlaps the wooded area and embraces a considerable portion of the western treeless plains, thus securing a representation of the highly specialized prairie fauna. The Mississippi bottom-land along the southeastern boundary of the state has a relatively high mean temperature, and entices a few species from their proper habitat much farther south. The thousands of lakes, ponds, and streams and the proximity of Lake Superior—aggregating five thousand seven hundred square miles of water area—afford congenial haunts for an immense number of water birds of many species, and while these have deplorably decreased with the changes consequent upon the advent of man, there is still an unusually rich aquatic bird life.

LIFE ZONES AND FAUNAL AREAS OF MINNESOTA

Naturalists divide the surface of the earth into biological *Regions*, each distinguished by certain characteristic features of its animal and plant life. These major areas are again divided into *Life Zones* according to still more detailed groupings of living forms distinctive of each; and these *Life Zones* are still further subdivided into what are called by zoologists *Faunal Areas*. The term *Biogeography* is often used for this particular branch of biological study; with subdivisions into *Zoogeography*, the geographical distribution of animals, and *Phytogeography*, the geographical distribution of plants. Minnesota embraces *Zones* belonging to two *Regions*. The northeastern portion of the state lies within what is known as the *Canadian Zone* of the *Boreal Region*; distinguished by its coniferous forests and associated plant forms and an animal life—especially bird life—distinctively its own. The remainder of the state belongs to the *Transition Zone*, which is

the northern division of the *Austral Region*. Thus two of the major biologic divisions of North America, the Boreal on the north and the Austral on the south, come in contact diagonally across the state of Minnesota. The Zones south of the Canadian are subdivided into eastern and western portions, designated by zoologists *Faunal Areas*, the chief determining factor being the mean humidity. For example, the humid eastern portion of the Transition Zone from the Great Plains to the Atlantic Coast is called the *Alleghanian Faunal Area*, within which lies all of Minnesota not included in the Canadian.

It is not of course to be understood that these various life areas are separated from one another by well-defined lines. Instead, two contiguous areas blend into each other over a strip of greater or lesser width, which presents intermingled characteristics of each.

On the western prairies of Minnesota are to be found a considerable sprinkling of plants and animals from what was formerly known as the *Campestrian* or *Plains Flora and Fauna* farther west; and in the southeastern corner of the state occurs, as an extension northward along the bottom-land of the Mississippi River, a smaller representation from the *Carolinian Flora and Fauna* of the *Upper Austral Zone* (the middle portion of the *Austral Region*) belonging properly to the latitude of Iowa and Illinois. But these intrusions from the west and south are hardly great enough to give a dominant character to the areas where they occur, and may be regarded simply as a sort of veil over the true face of the country. To designate these slightly differentiated life areas of the state and as expressing their incomplete character, the terms *Pseudo-Campestrian* and *Pseudo-Carolinian* may, perhaps, be convenient and have been so used on the Life-Zone Map accompanying this paper. Between these modified areas and south of the Canadian, is a great tract, left white on the map, which is typical Alleghanian, at least so far as the birds are concerned, except for the presence of the Western Meadowlark and scattered colonies of Brewer's Blackbird, western species that have invaded this region.

Western Birds Breeding in the Pseudo-Campestrian or Prairie Region of Minnesota but Not Regularly Elsewhere in the State

Western Grebe, Eared Grebe, Swainson's Hawk, Burrowing Owl, Arkansas Kingbird, Brewer's Blackbird (isolated colonies

further east), Chestnut-collared Longspur, McCown's Longspur, Baird's Sparrow, Lark Bunting, and Sprague's Pipit.

Southern Birds Breeding in the Pseudo-Carolinian, along the Southeastern Border of Minnesota, but Not Regularly Elsewhere in the State

Red-bellied Woodpecker, Field Sparrow (north to Isanti County), Prothonotary Warbler (north to Isanti County), Blue-winged Warbler, Louisiana Water-Thrush (north along St. Croix River to Taylor's Falls).

The Following Northern Birds Occur Regularly as Permanent Residents in the Canadian or Evergreen Forests of Northern Minnesota but Further South Are Winter Visitants, Stragglers, or Absent

Canada Spruce Partridge, Great Gray Owl, Richardson's Owl, Arctic Three-toed Woodpecker, American Three-toed Woodpecker, Canada Jay, Northern Raven, Purple Finch, Red Crossbill, Pine Siskin, and Hudsonian Chickadee.

Thus it will be seen that Minnesota as a whole affords a varied field for the ornithologist and that a study of its birds in any one locality is but a fragment of the complete story.

STATISTICS AND MANNER OF OCCURRENCE OF MINNESOTA BIRDS

The total number of different kinds of birds that are known at the present time to occur regularly in Minnesota is two hundred and sixty-two species, ten of which are represented by one additional subspecies and one by two, making twelve additional subspecies. To this number are to be added thirty-three species and nine subspecies that are rare or accidental, six species that formerly occurred but are no longer found, two introduced species, and four species the present status of which is unsettled, making a complete list of three hundred and seven species and twenty-one subspecies. In addition to this list thirty-four species and three subspecies have been attributed to the state by various authors, but the evidence of their occurrence is unsatisfactory (Hypothetical List).

An analysis of the regular list of two hundred and sixty-two species and twelve subspecies shows the manner of their occurrence to be as follows: thirty-one species and four subspecies are *Permanent Residents*, that is they are represented throughout the

entire year, as for example the Blue Jay and Chickadee; one hundred and seventy-four species and three subspecies are *Summer Residents*, birds that come to Minnesota to rear their young but retreat southward in the fall. These two groups combined constitute the regular nesting population—two hundred and five species and seven subspecies. Forty-five species and two subspecies are *Transients* only, passing spring and fall entirely across the state north and south, as for example the Snow Goose, the White-crowned Sparrow, the Black-poll Warbler and many of the Waders. Twelve species and three subspecies are *Winter Visitors*, coming into Minnesota from their summer homes in the north only during the colder months.

A tabulation of the above analysis will present the figures more plainly.

	Species	Subspecies
Permanent Residents.....	31	4
Summer Residents.....	174	3
Transients.....	45	2
Winter Visitors.....	12	3
Total Regular List.....	262	12
Regular List.....	262	12
Rare and Accidental.....	33	9
Extirpated.....	6	
Introduced.....	2	
Unsettled.....	4	
Total Complete List.....	307	21
Hypothetical List.....	34	3

The above figures are for the state as a whole, but from what has already been said in regard to the Faunal Areas represented it will be understood that the bird population of one locality may differ greatly, especially in the summer residents and migrants, from that of another at a considerable distance from the first. Thus many species that are only migrants in the southern half of the state are common summer residents in the evergreen forests of the northern half. Some birds found in the southern part of the state are never found in the northern part, and vice versa. The same is true of the eastern and western portions. To illustrate: the complete list of birds of Ramsey and Hennepin counties, in the southeastern quarter of the state, contains 248 species (omitting

subspecies). Of these some 89 are Transients, while there are only 44 Transients for the state at large, showing that 45 species pass through these counties to nest in the northern portion of the state or beyond. There are 112 Summer Residents, 72 less than for the whole state; 15 Permanent Residents; 20 Winter Visitants (the increase over the state total is due to certain Permanent Residents in the north being Winter Visitants in the south); and 12 Accidental and Rare species.

WINTER BIRD LIFE OF MINNESOTA

A northern state like Minnesota, with long and severe winters and usually heavy and continuous snows, presents conditions unfavorable for an abundant bird life. As a result the number of individuals or aggregate bird population is rather scanty, especially in the northern, more boreal portion. But when many observations from all parts of the state, made through a series of varying seasons, are examined, a surprisingly large number of species will be found to occur. A regular winter list thus compiled contains no less than 43 species and 7 subspecies, and enough accidental and rare species have been met with to bring the total to the very considerable number of 89 species and 7 subspecies.

A few species, common as summer residents or migrants, are represented during the winter by only a comparatively few individuals, the bulk retreating beyond our southern boundary. Such for example are the Junco, Brown Creeper, Red-breasted Nuthatch, Tree Sparrow, Cedar Waxwing, Crow, and Goldfinch. These are found chiefly in sheltered places in the southern part of the state, most commonly during mild winters. They may be considered as Half-Hardy birds. Many of them perish if the weather suddenly becomes severe.

For a fuller and more detailed account of the winter birds see *The Winter Bird Life of Minnesota*, by T. S. Roberts, published by the Zoological Division of the Geological and Natural History Survey of Minnesota, February, 1916. Copies may be had by application to the Zoological Museum, University of Minnesota, Minneapolis, Minn.

MIGRATION OF MINNESOTA BIRDS

The subject of the migration of birds is full of intense interest, mystery, and astonishing revelation. Of Minnesota birds no less than 72 species retreat entirely beyond the southern limits of the

United States to spend the winter, and of these all the individuals of 26 species go all the way to the plains, forests, and mountains of South America, making this long and hazardous round trip annually in response to an imperative instinctive habit (or "physiological prompting") implanted in them by conditions existing in ages now long past. Within an area including the southern portion of the eastern United States, Mexico, Central America, the West Indies, and northern South America may be found during the winter time some 113 other species of Minnesota birds that are spending the northern cold season in these more hospitable climes. Thirty-six species do not extend their journeyings beyond the southern tier of states, and are ever ready to return to the Northland with the first indications that forbidding Winter has released his icy grip. These latter birds constitute our early spring arrivals. The more southern-wintering species come later and make their appearance about the same time each year, no matter what the seasonal conditions may be.

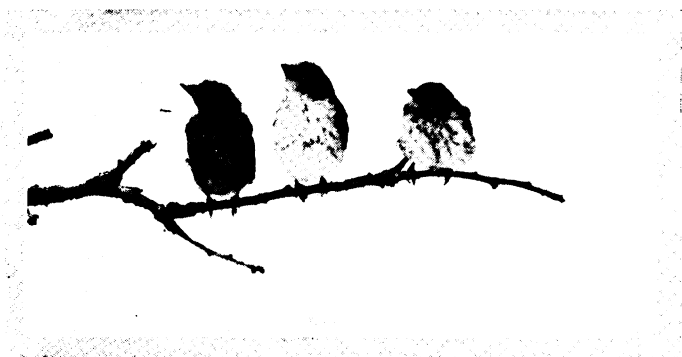


Young Cooper's Hawks

KEY TO ABBREVIATIONS USED IN LISTS

- P.R. Permanent Resident. Breeds.
S.R. Summer Resident. Breeds.
T.V. Transient Visitant. Migrant across state spring and fall.
W.V. Winter Visitant.
H.H. Half-Hardy: birds the bulk of which migrate south in the winter but of which a limited number remain, chiefly in the southern part of the state, throughout the winter months.
Can. Canadian Zone. See map.
Camp. Pseudo-Campestrian Life Area. See map.
Car. Pseudo-Carolinian Life Area. See map.
Trans. Transition Zone. See map.
N. North or Northern.
S. South or Southern.
W. West or Western.
E. East or Eastern.
Sur. Col. Collection of the Zoological Museum of the Geological and Natural History Survey of Minnesota, located in the Animal Biology Building, University of Minnesota, Minneapolis.

Illustrative Example: **Junco, SNOWBIRD.** Trans:—T.V. S:—H.H.
Can:—S.R. This is to be interpreted thus:—the Junco is a migrant spring and fall in the southern and western parts of the state (Transition Zone) and a few remain through the winter, chiefly in the southern portion; while in the evergreen forests of the state (Canadian Zone) it is a summer resident and breeds.



Young Scarlet Tanagers

A CHECK-LIST OF BIRDS KNOWN TO OCCUR
REGULARLY IN MINNESOTA

WATER BIRDS

ORDER: Diving Birds

Family:—Grebes.

Western Grebe. Camp:—S.R. Straggler E. (Lake Minnetonka,
Hennepin Co., May 29, 1917, Roberts)

Holboell's Grebe, RED-NECKED GREBE. S.R.

Horned Grebe. S:—T.V. N:—S.R.

Eared Grebe. Camp:—S.R.

Pied-billed Grebe, DABCHICK, HELLDIVER. S.R.

Family:—Loons.

Loon, GREAT NORTHERN DIVER. S.R.

ORDER: Long-winged Swimmers

Family:—Gulls and Terns.

Herring Gull. S:—T.V. N:—S.R. Lake Superior:—P.R.

Ring-billed Gull. T.V.

Franklin's Gull, FRANKLIN'S ROSY GULL. W:—S.R. E:—T.V.

Bonaparte's Gull. T.V.

Caspian Tern. T.V.

Forster's Tern. S.R., chiefly W.

Common Tern, WILSON'S TERN. S:—T.V. N:—S.R.

Black Tern. S.R.

ORDER: Totipalmate Swimmers

Family:—Cormorants.

Double-crested Cormorant, BLACK LOON, SHAG. S.R.

Family:—Pelicans.

White Pelican. T.V.; formerly S.R.

ORDER: Lamellirostral Swimmers

Family:—Ducks, Geese, and Swans.

Mergansers, Shelldrakes, or Fish Ducks

Merganser, AM. MERGANSER, GOOSANDER, BIG SAW-BILL, BIG
SHELLDRAKE, etc. S:—T.V. N:—S.R. Lake Superior:—
P.R.

Red-breasted Merganser. S:—T.V. N:—S.R. Lake Superior:—P.R.

Hooded Merganser, LITTLE SAW-BILL, FISH DUCK. S.R.
Surface Feeding Ducks

Mallard. S.R.

Black Duck, BLACK MALLARD, DUSKY MALLARD. T.V.

Gadwall, GRAY DUCK. S.R.

Baldpate, WIDGEON. T.V.

Green-winged Teal. Chiefly T.V. B. sparingly.

Blue-winged Teal. S.R.

Shoveler, SPOONBILL. S.R.

Pintail, SPRIGTAIL. S.R.

Wood Duck, SUMMER DUCK. S.R.

Diving Ducks

Redhead, POCHARD. S.R.; now largely T.V.

Canvas-back. S.R.; now largely T.V.

Scaup Duck, GREATER SCAUP, BIG BLUE-BILL. T.V.

Lesser Scaup Duck, LITTLE BLUE-BILL. S.R.; bulk T.V.

Ring-necked Duck. S.R.; bulk now T.V.

Golden-eye, WHISTLE-WING. S.R. Lake Superior, etc.:—P.R.

Buffle-head, BUTTER-BALL, SPIRIT DUCK. S.R.; bulk T.V.

Old-squaw, LONG-TAILED DUCK. W.V.; chiefly Lake Superior.

Occasional migrant spring and fall elsewhere.

White-winged Scoter. T.V. Occurs also in winter where open water.

Ruddy Duck. S.R.

Geese

Snow Goose, WHITE BRANT. Two forms occur:—

Snow Goose. Common T.V.

Greater Snow Goose. Accidental T.V. See Accidental List.

Blue Goose. T.V.

White-fronted Goose, SPECKLE-BELLY. T.V.

Canada Goose, HONKER. Three forms occur:—

Canada Goose (large). T.V.; formerly S.R.

Hutchins's Goose (medium). Rare T.V. See Accidental List.

Cackling Goose (small). Rare T.V. See Accidental List.

Swans

Whistling Swan. T.V.

ORDER: Herons and Bitterns

Family:—Herons and Bitterns.

Bittern. S.R.

Least Bittern. S.R.

Great Blue Heron. S.R.

Green Heron. S.R.; chiefly S.

Black-crowned Night Heron. S.R.; chiefly S.

ORDER: Cranes, Rails, etc.

Family:—Cranes.

Whooping Crane. Formerly S.R. Now an extremely rare T.V.

Sandhill Crane. T.V.; formerly S.R.

Family:—Rails, Gallinules, and Coots.

King Rail. S.R.; chiefly S.

Virginia Rail. S.R.

Sora, CAROLINA RAIL. S.R.

Yellow Rail. S.R.

Florida Gallinule. S.R.; chiefly S.

Coot, MUDHEN. S.R.

ORDER: Shore-birds

Family:—Phalaropes.

Northern Phalarope. T.V.

Wilson's Phalarope. S.R.

Family:—Sandpipers, Snipes, Godwits, Curlews, etc.

Woodcock. S.R.

Wilson's Snipe, JACK SNIPER. S.R.

Long-billed Dowitcher. T.V.

Stilt Sandpiper. T.V.

Pectoral Sandpiper, GRASS SNIPER. T.V.

White-rumped Sandpiper. T.V.

Baird's Sandpiper. T.V.

Least Sandpiper, AMERICAN STINT. T.V.

Red-backed Sandpiper, BLACK-BELLIED SANDPIPER. T.V.

Semipalmated Sandpiper. T.V.

Marbled Godwit. W:—S.R.

Hudsonian Godwit. T.V.

Greater Yellow-legs, TELL-TALE. T.V.

Yellow-legs, LESSER YELLOW-LEGS. T.V.

Solitary Sandpiper. S:—T.V. N:—S.R.

Western Willet. T.V.; formerly S.R.

Upland Plover, BARTRAMIAN SANDPIPER. S.R.

Buff-breasted Sandpiper. T.V.

Spotted Sandpiper, TIP-UP, TEETER SNIPE. S.R.

Family:—Plovers.

Black-bellied Plover. T.V.

Golden Plover. T.V.

Killdeer. S.R.

Semipalmated Plover. T.V.

LAND BIRDS

ORDER: Gallinaceous Birds

Family:—Bob-whites, Quails, etc.

Bob-white, QUAIL. P.R.

Family:—Grouse, Spruce Partridges, etc.

Canada Spruce Partridge, SPRUCE GROUSE. Can:—P.R.

Ruffed Grouse, "PARTRIDGE." P.R.

Two forms occur, the **Ruffed Grouse** and the **Canada Ruffed Grouse** with many intergrades throughout the state.

Prairie Chicken, PRAIRIE HEN, PINNATED GROUSE. P.R.

Prairie Sharp-tailed Grouse, WHITE-BREASTED GROUSE. P.R.

ORDER: Pigeons and Doves

Family:—Pigeons and Doves.

Mourning Dove. S.R.

ORDER: Birds of Prey

Family:—American Vultures.

Turkey Vulture. S.R.

Family:—Hawks, Eagles, Kites, etc.

Swallow-tailed Kite. S.R.

Marsh Hawk, MARSH HARRIER. S.R.

Sharp-shinned Hawk. S.R.

Cooper's Hawk, HEN HAWK, CHICKEN HAWK. S.R.

Goshawk. Chiefly W.V.; occasional S.R.

Red-tailed Hawk. Four forms occur:—

Red-tailed Hawk. S.R.

Western Red-tail. See Accidental List.

Harlan's Hawk. See Accidental List.

Krider's Hawk. S.R.; chiefly southwestern.

Swainson's Hawk. S.R.; chiefly W.

Broad-winged Hawk. S.R.

Rough-legged Hawk. W.V.

Ferruginous Rough-leg. Camp:—T.V. (S.R.?)

Golden Eagle. P.R.

Bald Eagle. S.R.

Family:—Falcons, etc.

Duck Hawk, PEREGRINE FALCON. S.R.

Pigeon Hawk. S.R.

Sparrow Hawk. S.R.

Family:—Ospreys.

Osprey, FISH HAWK. S.R.

Family:—Horned Owls, Hoot Owls, etc.

Long-eared Owl, WILSON'S OWL. S.R.

Short-eared Owl, MARSH OWL. Chiefly S.R.; occasional in winter.

Barred Owl. P.R.

Great Gray Owl. P.R.; chiefly N.

Richardson's Owl. N:—W.V.; rarely S.R.

Saw-whet Owl. P.R.

Screech Owl. P.R.

Great Horned Owl, HOOT OWL. Three forms occur:—

Great Horned Owl. P.R.

Western Horned Owl. P.R.

Arctic Horned Owl. W.V.

Snowy Owl. W.V.

Hawk Owl. W.V. (N:—P.R.?)

Burrowing Owl. Camp:—S.R.

ORDER: Cuckoos, Kingfishers, etc.

Family:—Cuckoos.

Yellow-billed Cuckoo. S.R.

Black-billed Cuckoo. S.R.

Family:—Kingfishers.

Belted Kingfisher. S.R.; occasional in winter.

ORDER: Woodpeckers

Family:—Woodpeckers

Hairy Woodpecker. Two forms occur:—

Hairy Woodpecker. P.R.

Northern Hairy Woodpecker. P.R. (or W.V.?); chiefly N.

Downy Woodpecker. Two forms occur:—

Downy Woodpecker. P.R.

Nelson's Downy Woodpecker, NORTHERN DOWNY WOODPECKER (Ridgway). P.R.

Arctic Three-toed Woodpecker, BLACK-BACKED THREE-TOED WOODPECKER. Can:—P.R.

Three-toed Woodpecker, AMERICAN THREE-TOED WOODPECKER. Can:—P.R.

Yellow-bellied Sapsucker. S.R.

Northern Pileated Woodpecker, LOG-CK. P.R.

Red-headed Woodpecker. S.R.

Red-bellied Woodpecker. Car:—P.R. Casual elsewhere.

Northern Flicker, GOLDEN-WINGED WOODPECKER, HIGH-HOLE, etc. S.R.

ORDER: Goatsuckers, Swifts, etc.

Family:—Goatsuckers, etc.

Whip-poor-will. S.R.

Nighthawk, BULL-BAT. Two forms occur:—

Nighthawk. S.R.

Sennett's Nighthawk. S.R., western.

Family:—Swifts.

Chimney Swift, CHIMNEY "SWALLOW." S.R.

Family:—Hummingbirds.

Ruby-throated Hummingbird. S.R.

ORDER: Perching Birds

Family:—Flycatchers.

Kingbird. S.R.

Arkansas Kingbird, WESTERN KINGBIRD. Camp:—S.R.

Crested Flycatcher, GREAT CRESTED FLYCATCHER. S.R.

Phoebe, HOUSE PEWEE. S.R.

Olive-sided Flycatcher. S:—T.V. Can:—S.R.

Wood Pewee. S.R.

Yellow-bellied Flycatcher. S:—T.V. Can:—S.R.

Alder Flycatcher, TRAILL'S FLYCATCHER. S.R.

Least Flycatcher, CHEBEC. S.R.

Family:—Larks.

Horned Lark, SHORE LARK. Two forms occur:—

Prairie Horned Lark. S.R. and south H.H.

Hoyt's Horned Lark. W.V.; chiefly W.

Family:—Crows, Jays, etc.

Blue Jay. P.R.

Canada Jay, MOOSEBIRD, CAMP-ROBBER. Can:—P.R.

Northern Raven. N:—P.R. S:—W.V.

Crow. S.R. S:—H.H.

Family:—Blackbirds, Orioles, etc.

Bobolink, REEDBIRD, RICEBIRD. S.R.

Cowbird, COW BUNTING. S.R.

Yellow-headed Blackbird. S.R.

Red-winged Blackbird. Two forms occur (*A.O.U. Check-List* 1910):—

Red-winged Blackbird. S.R.

Thick-billed Red-wing. T.V.

Meadowlark, EASTERN MEADOWLARK. SE:—S.R.

Western Meadowlark. S.R.

Orchard Oriole. S.R.; chiefly S.

Baltimore Oriole, HANG-NEST. S.R.

Rusty Blackbird. T.V.

Brewer's Blackbird. S.R.; chiefly Camp. but numerous colonies appearing southeastward as far, at least, as Isanti and Hennepin counties.

Bronzed Grackle, CROW BLACKBIRD. S.R.

Family:—Finches, Sparrows, etc.

Evening Grosbeak. W.V.

Pine Grosbeak. W.V.

Purple Finch. S:—Bulk T.V.; few H.H. Can:—S.R.

Crossbill, RED CROSSBILL. Can:—P.R. S:—W.V.

White-winged Crossbill. W.V. (Can:—P.R.?)

Hoary Redpoll. W.V.

Redpoll, REDPOLL LINNET. Two forms occur:—

Redpoll, COMMON or LESSER REDPOLL. W.V.

Greater Redpoll. W.V.

Goldfinch, THISTLE-BIRD, "WILD CANARY." Bulk S.R.; few H.H. in S.

Pine Siskin, PINE LINNET. Can:—S.R. S:—W.V.

Snow Bunting, SNOWFLAKE. W.V.

Lapland Longspur. W.V.

Smith's Longspur. T.V.

Chestnut-collared Longspur, BLACK-BELLIED LONGSPUR. Camp:—S.R.

McCown's Longspur. Camp:—S.R.

Vesper Sparrow, BAY-WINGED BUNTING, GRASS FINCH. S.R.

Savannah Sparrow. S.R.

Baird's Sparrow. Camp:—S.R.

Western Grasshopper Sparrow, YELLOW-WINGED SPARROW. S.R.

- Henslow's Sparrow.** S.R.
LeConte's Sparrow. S.R.
Nelson's Sparrow, NELSON'S SHARP-TAILED FINCH. S.R.
Lark Sparrow, LARK FINCH. S.R.
Harris's Sparrow, HARRIS'S FINCH. T.V.
White-crowned Sparrow. Two forms occur:—
 White-crowned Sparrow. T.V.
 Gambel's Sparrow, INTERMEDIATE SPARROW. T.V.
White-throated Sparrow. Can:—S.R. S:—T.V.
Tree Sparrow. Bulk T.V.; many winter chiefly S.
Chipping Sparrow. S.R.
Clay-colored Sparrow. S.R.
Field Sparrow. S:—S.R.
Junco, SNOWBIRD. Two forms occur:—
 Slate-colored Junco. Trans:—T.V. S:—H.H. Can:—S.R.
 Montana Junco. See Accidental List.
Song Sparrow. S.R.
Lincoln's Sparrow, LINCOLN'S FINCH. T.V. (Can:—S.R.?)
Swamp Sparrow. S.R.
Fox Sparrow. T.V.
Towhee, CHEWINK, GROUND ROBIN. S.R.
Rose-breasted Grosbeak. S.R.
Indigo Bunting. S.R.; chiefly S.
Dickcissel, BLACK-THROATED BUNTING. S.R.
Lark Bunting, WHITE-WINGED BLACKBIRD. Camp:—S.R.
 Family:—Tanagers.
 Scarlet Tanager. S.R.
 Family:—Swallows.
 Purple Martin. S.R.
 Cliff Swallow, EAVE SWALLOW. S.R.
 Barn Swallow. S.R.
 Tree Swallow, WHITE-BELLIED SWALLOW. S.R.
 Bank Swallow. S.R.
 Rough-winged Swallow. S.R.
 Family:—Waxwings.
 Bohemian Waxwing, NORTHERN WAXWING, CHATTERER. W.V.
 Cedar Waxwing, CEDARBIRD, CHERRYBIRD. S.R. S:—H.H.
 Family:—Shrikes.
 Northern Shrike, BUTCHER-BIRD. W.V.
 Migrant Shrike. S.R.

Family:—Vireos.

Red-eyed Vireo. S.R.

Philadelphia Vireo, Can:—S.R. S:—T.V.

Warbling Vireo. S.R.

Yellow-throated Vireo. S.R.

Blue-headed Vireo, SOLITARY VIREO. Can:—S.R. S:—T.V.

Family:—Wood Warblers.

Black and White Warbler. S.R.

Prothonotary Warbler, GOLDEN SWAMP WARBLER. Car:—S.R.

Blue-winged Warbler. Car:—S.R.

Golden-winged Warbler. S.R.

Nashville Warbler. S.R.

Orange-crowned Warbler. T.V.

Tennessee Warbler. Can:—S.R. S:—T.V.

Northern Parula Warbler. Can:—S.R. S:—T.V.

Cape May Warbler. T.V.

Yellow Warbler, SUMMER YELLOWBIRD. S.R.

Black-throated Blue Warbler. Can:—S.R. S:—T.V.

Myrtle Warbler, YELLOW-RUMPED WARBLER. Can:—S.R. S:—T.V.

Magnolia Warbler, BLACK AND YELLOW WARBLER. Can:—S.R. S:—T.V.

Chestnut-sided Warbler. S.R.

Bay-breasted Warbler. T.V.

Black-poll Warbler. T.V.

Blackburnian Warbler. Can:—S.R. S:—T.V.

Black-throated Green Warbler. S.R.

Pine Warbler. Can:—S.R. S:—T.V.

Palm Warbler. Can:—S.R. S:—T.V.

Oven-bird, GOLDEN-CROWNED THRUSH OR ACCENTOR, TEACHER-BIRD. S.R.

Grinnell's Water-Thrush, SMALL-BILLED W-T. or WATER WAG-TAIL. Can:—S.R. S:—T.V.

Louisiana Water-Thrush, LARGE-BILLED W-T. or WATER WAG-TAIL. Car:—S.R.

Connecticut Warbler. Can:—S.R. S:—T.V.

Mourning Warbler. Can:—S.R. S:—T.V.

Maryland Yellow-throat. S.R.

Wilson's Warbler, WILSON'S BLACK-CAPPED W. Can:—S.R. S:—T.V.

Canada Warbler, NECKLACED W. Can:—S.R. S:—T.V.

Redstart. S.R.

Family:—Wagtails.

Pipit, TITLARK. T.V.

Sprague's Pipit. Camp:—S.R.

Family:—Thrashers, etc.

Catbird. S.R.

Brown Thrasher, BROWN THRUSH. S.R.

Family:—Wrens.

House Wren. Two forms occur:—

House Wren. S.R.

Western House Wren, PARKMAN'S WREN. S.R.

Winter Wren. Can:—S.R. S:—T.V.

Short-billed Marsh Wren. S.R.

Prairie Marsh Wren, LONG-BILLED MARSH WREN. S.R.

Family:—Creepers.

Brown Creeper. Can:—S.R. S:—T.V. and H. H.

Family:—Nuthatches.

White-breasted Nuthatch. P.R.

Red-breasted Nuthatch. Can:—S.R. S:—T.V. and H.H.

Family:—Titmice.

Chickadee, BLACK-CAPPED CHICKADEE. P.R.

Hudsonian Chickadee. Can:—P.R.

Family:—Kinglets, etc.

Golden-crowned Kinglet. Can:—S.R. S:—T.V. and H.H.

Ruby-crowned Kinglet. T.V.

Family:—Thrushes, Robins, Bluebirds, etc.

Wood Thrush. Trans:—S.R.

Willow Thrush, VEERY. S.R.

Gray-cheeked Thrush, ALICE'S THRUSH. T.V.

Olive-backed Thrush. Can:—S.R. S:—T.V.

Hermit Thrush. Can:—S.R. S:—T.V.

Robin. S.R. S:—few H.H.

Bluebird. S.R.

A LIST OF BIRDS THAT ARE RARE OR ACCIDENTAL IN MINNESOTA

The species included in this list are wanderers far from their normal habitats and so do not belong properly to Minnesota's bird population. Such birds are probably for the most part lost, storm-driven, or adventuresome individuals, and their occurrence within our territory is purely a fortuitous or casual matter.

As this list contains exceptional records, the scientific names and exact data are given in accordance with the usual practice under such circumstances.

Ancient Murrelet (*Synthliboramphus antiquus*). One specimen Sur. Coll.: Lake Hook, McLeod Co., Nov. 5, 1905.

Parasitic Jaeger (*Stercorarius parasiticus*). One specimen Sur. Coll.: Heron Lake, Jackson Co., Sept. 8, 1916.

Long-tailed Jaeger (*Stercorarius longicaudus*). One specimen Sur. Coll.: Marshall Co., July 1, 1898.

Cinnamon Teal (*Querquedula cyanoptera*). One specimen Sur. Coll.: Cottonwood Co., Oct. 29, 1888.

Scoter, BLACK SCOTER (*Oidemia americana*). One specimen Sur. Coll.: Heron Lake, Jackson Co., Oct. 5, 1899.

Surf Scoter (*Oidemia perspicillata*). Two specimens Sur. Coll.: Belle Lake, McLeod Co., Nov. 18, 1900 and Heron Lake, Jackson Co., Oct. 1, 1909. One or two others reported.

Greater Snow Goose (*Chen hyperboreus nivalis*). One specimen Sur. Coll.: Otter Tail Co., fall of 1892.

Hutchins's Goose (*Branta canadensis hutchinsi*). No specimens in Sur. Coll., but reports of its occurrence and capture in various places in the western part of the state are trustworthy (H. J. Jaeger of Owatonna).

Cackling Goose (*Branta canadensis minima*). Two specimens in Sur. Coll., one taken in McLeod Co. and one in Otter Tail Co., stragglers from the west.

White-faced Glossy Ibis (*Plegadis guarauna*). Three Minnesota specimens in Sur. Coll., one in adult breeding plumage; all taken at Heron Lake. Several others have been taken and a number seen at various places in southern Minnesota as far north as Lake Miliona, Douglas Co.; all young birds in the fall of the year. Breeding at Heron Lake in 1894 and 1895 (Peabody, *Auk* 13:79). A wanderer from the far south.

- Egret** (*Herodias egretta*). No specimens. Dr. J. C. Hvoslef reports: Lanesboro, Fillmore Co. "occasional; one stayed July 21-23, 1884."
- Little Brown Crane** (*Grus canadensis*). One specimen Sur. Coll.: Hennepin Co., Apr. 2, 1894.
- Knot** (*Tringa canutus*). One specimen Sur. Coll.: Lanesboro, Fillmore Co., Sept. 7, 1885 (Hvoslef).
- Sanderling** (*Calidris leucophaea*). Four Minn. specimens Sur. Coll. One taken (two seen) June 24, 1916, Lake of the Woods (Roberts). Several other reliable records.
- Piping Plover** (*Aegialitis meloda*). Only one record; four seen and studied at close range on a sand bar at the mouth of the Rainy River, Lake of the Woods, July 6, 1915 (Roberts).
- Ruddy Turnstone** (*Arenaria interpres morinella*). Three Minn. specimens Sur. Coll. Several other good records. One taken Mille Lacs Lake, Mille Lacs Co., June 22, 1915 (Roberts).
- Willow Ptarmigan** (*Lagopus lagopus lagopus*). One specimen Sur. Coll. taken Apr. 20, 1914, on Springsteel Island, Lake of the Woods, Roseau Co., Minn., and presented to the Museum by Mr. S. Withey of Crookston. See *Auk* 32:99, for record of this bird by Mr. J. W. Franzen. No other Minnesota specimens known and other records based on hearsay.
- Western Red-tail** (*Buteo borealis calurus*). This dark phase of the Red-tail is represented in the Sur. Coll. by a single specimen: Hennepin Co., Apr. 6, 1889 (Albert Lano).
- Harlan's Hawk** (*Buteo borealis harlani*). The southern melanistic phase of the Red-tailed Hawk occurs in Minnesota occasionally. One specimen Sur. Coll.: Madison, Lac qui Parle Co., Apr. 12, 1893, Albert Lano. (See *Auk* 13:342.) One taken near Minneapolis, Dec. 5, 1914, by Martin K. Bovey.
- Gray Gyrfalcon** (*Falco rusticolus rusticolus*). An occasional winter visitant. One female specimen in Sur. Coll. taken at Madison, Lac qui Parle Co., Dec. 11, 1894, by Albert Lano (*Auk* 29:239). This specimen combines the heavily streaked head of *Falco rusticolus rusticolus*, the white and heavily marked underparts of *F. r. gyrfalco*, and the plain dark back and imperfectly barred tail of *F. r. obsoletus*. Other specimens have been taken in the state and reported under various sub-specific names.

- Prairie Falcon** (*Falco mexicanus*). Two specimens Sur. Coll.: Traverse Co., Sept. 11, 1894, de la Barre (see *Auk* 26:191) and Lac qui Parle Co., Sept. 24, 1895, Albert Lano.
- Barn Owl** (*Aluco pratincola*). Two Minnesota specimens in Sur. Coll.: Hennepin Co., Aug. 8, 1916, and Faribault Co., Oct. 9, 1917. There are other reliable reports of this southern bird at various places in southern Minnesota.
- Groove-billed Ani** (*Crotophaga sulcirostris*). One of these tropical birds strayed far up the Mississippi River to an island nine miles above Red Wing, where it was shot by Walter Gantenbein of Diamond Bluff, Wisconsin, on Oct. 12, 1913, who mounted it and still retains it in his possession.
- Red-shafted Flicker** (*Colaptes cafer collaris*). One specimen Sur. Coll.: Big Island, Lake Minnetonka, Hennepin Co., Apr. 21, 1911, Dan Schmidt. Also one in Coll. A. D. Brown, Pipestone, Pipestone Co., taken there Apr. 15, 1893. One seen at Northfield, Rice Co., Oct. 10, 1916 by H. J. Jaeger.
- Magpie** (*Pica pica hudsonia*). Two Minnesota specimens Sur. Coll. Several others have been reported; all from the western part of the state and in winter.
- Clarke's Nutcracker** (*Nucifraga columbiana*). One specimen Sur. Coll.: Traverse Co., Sept. 12, 1894, de la Barre (two seen); one specimen Coll. Minn. Agri. College, Otter Tail Co., Sept. 8, 1894; one specimen Coll. A. D. Brown, Pipestone, Pipestone Co., Sept. 22, 1894.
- House Finch** (*Carpodacus mexicanus frontalis*). One shot at Minneapolis, spring of 1876. (See Cantwell, *Ornith. and Ool.* 15:134.)
- Hepburn's Rosy Finch** (*Leucosticte tephrocotis littoralis*). One specimen Sur. Coll.: Hennepin Co., Jan. 3, 1889, F. W. Cook. (See Cantwell, *Ornith. and Ool.* 14:110.)
- Pale Goldfinch**, WESTERN GOLDFINCH (*Astragalinus tristis pallidus*). Ridgway, *Bds. N. and M. A.* pt. 1:112, 1901; referred to Minnesota with a "?".
- Montana Junco** (*Junco hyemalis montanus*). Two specimens in Sur. Coll.: Minneapolis, Apr. 8, 1876, R. S. Williams; Minneapolis, Oct. 5, 1877, T. S. Roberts.
- Cardinal**, CARDINAL GROSBK (*Cardinalis cardinalis cardinalis*). One specimen Sur. Coll.: Minneapolis, Oct. 23, 1875, T. S. Roberts. An increasing number of reliable reports, mostly winter. No breeding records thus far.

- Painted Bunting** (*Passerina ciris*). One specimen Sur. Coll.: Madison, Lac qui Parle Co., May 2, 1893; Albert Lano (see *Auk* 29:247).
- Summer Tanager** (*Piranga rubra rubra*). One specimen Sur. Coll.: Pipestone Co., late May 1891, A. D. Brown.
- Cerulean Warbler** (*Dendroica cerulea*). One specimen Sur. Coll.: Waconia, Carver Co., July 16, 1898, H. W. Gleason (two seen in company). Taken once at Lanesboro, Fillmore Co., May 5, 1887, by Dr. J. C. Hvoslef.
- Kirtland's Warbler** (*Dendroica kirtlandi*). A single record; a male taken at Minneapolis, May 13, 1892, by Dr. H. M. Guilford in whose collection the specimen is still preserved (see *Auk* 10:86).
- Yellow-breasted Chat** (*Icteria virens virens*). One Minnesota specimen Sur. Coll.: Heron Lake, Jackson Co., May 28, 1890, Thomas Miller. There are several more or less reliable published records and hearsay reports of the Chat in the state, but it is apparently only a very exceptional straggler into the extreme southern part of our territory.
- Pileolated Warbler** (*Wilsonia pusilla pileolata*). See Ridgway, *Bds. N. and M. A.* pt. 2:712, 1902. Record based on specimens in collection of National Museum taken in May at Fort Snelling by Dr. Edgar A. Mearns. These two specimens may be only aberrant individuals of the eastern form.
- Mockingbird** (*Mimus polyglottos polyglottos*). One specimen Sur. Coll.: Waconia, Carver Co., May 19, 1898, H. W. Gleason.
- Tufted Titmouse** (*Baeolophus bicolor*). There are no Minnesota specimens in Sur. Coll. but there are several reliable reports. Fairmount, Martin Co., winter of 1915-16, Dr. G. H. Luedtke (photographs at feeding station); Luverne, Rock Co., winter of 1914-15, Mrs. E. A. Brown; Minneapolis, winter of 1916-17, Mrs. L. E. Horton and Mrs. J. F. Hayden; Minneapolis, March 16, 1919, Mrs. Marshall McIntire. These were all single birds, seen, except in the last instance, in company with Black-capped Chickadees. No summer records thus far.
- Long-tailed Chickadee** (*Penthestes atricapillus septentrionalis*). See Ridgway, *Bds. N. and M. A.* pt. 3:400, 1904. This form of the species is here recorded with a "?" from the western border of Minnesota, but all the specimens in the Sur. Coll. from that region seem to belong to the eastern form.

Blue-gray Gnatcatcher (*Polioptila caerulea caerulea*). One specimen Sur. Coll.: Minneapolis, May 19, 1877, R. S. Williams (see *Bull. Nutt. Ornith. Club* 4:182). One specimen in collection of H. J. Jaeger of Owatonna taken in Murray Co., Apr. 18, 1900. Breeding records for Carver Co. (see Mitchell, *Auk* 12:185) not verified.

Townsend's Solitaire (*Myadestes townsendi*). One specimen Sur. Coll.: Fairmount, Martin Co., Nov. 30, 1916, Dr. G. H. Luedtke. There is also a specimen in the collection of St. John's College, Collegeville, Stearns Co., taken in that vicinity Dec. 20, 1909, Rev. Severn Gertkin (see *Auk* 33:327).



Young White-throated Sparrows

INTRODUCED SPECIES

Ring-necked Pheasant. P.R.

This bird, sometimes called the Chinese Pheasant, has been liberated in various places in the state during the last fifteen or twenty years. It is probable that a certain number of English Pheasants, from eastern stock, have been mingled with them. Of late years they have been set free in greatly increased numbers and they are apparently becoming acclimated and doing fairly well in the southern part of the state, especially where assistance is rendered during severe winters by supplementing their food supply.

House Sparrow, ENGLISH SPARROW. P.R.

Introduced between 1870 and 1880 and now abundant everywhere throughout the state, in the country as well as in the cities and towns.



Franklin's Gull Chicks

UNSETTLED SPECIES

The usually assigned range of the following birds includes Minnesota and there are one or more state records for each, but thus far the testimony is not conclusive.

Red-throated Loon. No Minnesota specimen Sur. Coll. and none known elsewhere. Records chiefly from Lake Superior in winter and unsupported by conclusive evidence.

Barrows's Golden-eye Duck. No specimens thus far to support the various Minnesota records. To be looked for as a winter visitant.

Hudsonian Curlew. Dr. Hatch barely mentions this maritime species in his list of 1880 but, on second thought, accords it more extended notice in his "*Notes*" of 1892; and Cantwell includes it second-hand in his list of 1890. W. W. Cooke in *Bird Migration Mississippi Valley, 1884-5* gives a record from Heron Lake by Thomas Miller, "May 1, 1884." As there are no Minnesota specimens known, and as there is reasonable doubt as to the reliability of these records, further information in regard to its occurrence is needed.

Red-shouldered Hawk. No Minnesota specimen seen. A southern species which has several times been credited to the state, but the evidence is still incomplete.



Young Migrant Shrikes

EXTIRPATED SPECIES

The birds listed here were found in Minnesota in years past but now are entirely absent.

Trumpeter Swan. Formerly S.R. Apparently extinct everywhere.

Avocet. Formerly S.R.

Long-billed Curlew. Once a common S.R. on the prairies; disappeared about 25 or 30 years ago.

Eskimo Curlew. Formerly an abundant T.V. Now nearly extinct everywhere.

Wild Turkey. In June, 1893, Dr. Wm. C. Portmann of Jackson, Jackson Co., Minn., related to the writer the following in regard to this bird: About thirty years ago, a farmer named Stone killed four Wild Turkeys from a flock of about thirty that lived in a piece of heavy timber in a bend of the Des Moines River just at the Iowa-Minnesota line. The farmer himself told Dr. Portmann of the occurrence. Another old resident of Jackson corroborated the statement.

Still more ancient, traditional lore would have the Wild Turkey a denizen of the deep and heavily wooded valleys of southeastern Minnesota in bygone times. The writings of the earlier travellers into this region are silent in regard to the Turkey, which seemingly would have elicited comment had it been in evidence along the banks of the Mississippi.

Passenger Pigeon. Formerly an abundant S.R. Rapidly diminished in numbers between the years 1878 and 1885, finally disappearing entirely between 1890 and 1900. It is now extinct everywhere. All other theories to the contrary, the extermination of this bird was the result of ruthless and wholesale destruction by man.



Young Baltimore Oriole

VANISHING BIRDS

The student of Minnesota ornithology to-day has presented to him conditions differing greatly from those that existed forty or fifty years ago, when the first formal work on the birds of the state began. Birds as a whole, have, during that interval, undergone a very great diminution in numbers. Some species, formerly abundant, are now represented by a mere remnant, while a few have disappeared entirely. This is especially true of the birds known as Game Birds, but many others have not been able to hold their own against destructive agencies or to adapt themselves to greatly altered conditions. A very few, mostly the smaller insectivorous species to which the presence of man is not specially inimical, have maintained their former abundance or even increased in numbers.

The essential underlying cause, direct and indirect, of this gradual disappearance of our birds is, plainly enough, the increasing presence of man himself. Some birds are so constituted by nature that their retreat before advancing civilization must be inevitable, no matter what degree of protection is afforded them. With a much larger number the conditions necessary for their existence are destroyed by the activities of man. The prairies are plowed up, the forests are cut down, the undergrowth cleared away, lakes and marshes drained, and thus the nesting places, feeding grounds, and shelters are appropriated by man. Hunting, especially in the earlier years when laws were lax, has been most destructive of game birds; and always, early and late, many birds of many kinds have been killed through sheer wantonness. With man came the domestic cat, and in its vast increase it has become a most destructive agent of our wild birds.

But a great awakening and intelligent understanding has come of late years, and with the better law enforcement and wide-spread interest in all wild things that now prevail, there is good promise that the waste of our bird-life may be effectively checked and that conditions resembling, in some degree at least, those of former days may be restored.

In addition to those birds that have disappeared entirely, the following species seem to have suffered most markedly:

Loon. Still fairly common during migrations and in some remote regions, but much less in evidence than formerly.

White Pelican. Formerly bred commonly all over the state. Now only a transient.

Wood Duck. Once abundant. Scarce of late years but apparently reappearing again in some favorable localities.

Redhead Duck.

Canvas-back Duck. These two ducks once bred abundantly all over the state; now only sparingly. Ducks in general have been greatly reduced in numbers, especially as summer residents; but the operation of the Federal Migratory Bird Law appears to have already brought about some improvement and much more is confidently hoped from the Migratory Bird Treaty Act now in force.

Canada Goose. Once a common summer resident throughout the state; now rarely if ever nesting here.

Whooping Crane. Formerly a common summer resident and nesting throughout the prairie regions of the state. It gradually disappeared until for some years past it has occurred only as an exceedingly rare transient visitant. The last record is of two seen together in the vicinity of Badger, Roseau County, on April 23, 1917. One of them was shot and brought for mounting to Mr. P. O. Frykland, of Badger, from whom this information was obtained.

Sandhill Crane. Formerly a common summer resident; now only a transient in limited numbers.

Wilson's Phalarope. Once an abundant nesting bird all over the state; now scarce.

Woodcock. Once fairly common in some localities; now scarce.

Marbled Godwit. The thousands that once nested on our western prairies are now only a memory; a few scattered pairs remain.

Western Willet. Rare now as a breeding bird; once common on the prairies.

Greater Yellow-legs. Once a common migrant; now infrequent.

Upland Plover. The numberless thousands that once made Minnesota their summer home are now reduced to a pitiable remnant.

Black-bellied Plover. Rarely encountered of late.

Golden Plover. Forty or fifty years ago this bird, often called the "Prairie Pigeon," migrated through Minnesota in immense numbers. It flew in dense flocks in open country, was easily decoyed, and so was a ready prey for the uncontrolled hunters of those days. Its flesh was excellent eating and much sought

after. The vast quantities that were killed during its spring movement through the United States was responsible for its almost total disappearance.

Canada Spruce Partridge. In former years a common bird in the evergreen forests of the state, but it has steadily disappeared until now but a few are left.

Ruffed Grouse. Abundant formerly in all woodlands; now, at the best, it is nowhere numerous.

Prairie Chicken. Steadily disappearing. Over large areas where it was formerly abundant its extinction is almost complete. Refuges and restocking may perhaps still save it to a limited extent.

Prairie Sharp-tailed Grouse. Same as last species. While unquestionably the merciless hunting of former years has been the chief cause of the extermination of the Prairie Chickens, other agencies for which mankind is less to blame have played a minor part.

Swallow-tailed Kite. The seemingly almost complete disappearance of this beautiful and once frequent bird is difficult to understand.

Golden Eagle.

Bald Eagle. The Eagles are steadily disappearing. The Golden Eagle was never common, but the Bald Eagle nested throughout the state. A few pairs still make their homes in remote places.

Northern Pileated Woodpecker. Formerly frequent in all big timber, it has become uncommon, chiefly because it was a conspicuous mark for the thoughtless man with a gun. In protected areas, like Itasca Park, it has multiplied in recent years, and become a familiar and almost common bird.

Whip-poor-will. While still locally common, it has almost or entirely disappeared from considerable areas where it was formerly numerous.

Horned Lark. This once everywhere abundant bird is for some unknown reason gradually becoming less numerous.

Blue Jay. Jays are markedly less in evidence than formerly.

Northern Raven. Forty years ago fairly common in the northern part of the state, but now rarely seen. Crows on the other hand, have, in that time, increased enormously and have become a serious pest throughout the entire state.

Snow Bunting. The vast flocks that formerly passed the winter in southern Minnesota are no longer seen.

Lapland Longspur. The same apparent absence of the great migrating and wintering flocks of this bird as observed in the case of the Snow Bunting.

Cliff Swallow, EAVE SWALLOW. Has entirely disappeared from regions where it was once one of the commonest of the swallows.



Great Horned Owl
Photograph of bird mounted by Jenness Richardson

HYPOTHETICAL LIST

The birds included in this list have been recorded from the state one or more times, but so far as is known there are no Minnesota specimens in existence and the observations upon which the reports have been based are not satisfactory or conclusive. Through general acceptance and wide quotation of the original records, some of these birds have become well established in literature as belonging to Minnesota, when in reality there is no good ground for so considering them. Such for example is the case with the Least Tern, Brant, White-eyed Vireo, Bell's Vireo, and Bewick's Wren. These unsupported records have been due in some instances to the efforts of perfectly honest but imperfectly informed persons, in other instances to too credulous acceptance of hearsay, to the careless confusion of names, or apparently to poor guessing.

The original authority for the Minnesota record is given in each case, followed occasionally by a reference to a later and fuller record. With some species there are many records, chiefly through quotations, but it does not seem necessary to refer to these here.

Black-throated Loon. Hatch, *Notes Bds. Minn.* 1892.

Kittiwake Gull. Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874; and *Notes Bds. Minn.* 1892.

Laughing Gull. Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874; and *Notes Bds. Minn.* 1892.

Least Tern. Hatch, *Bull. Geol. Nat. Hist. Sur. Minn.* 1881; and *Notes Bds. Minn.* 1892.

Cormorant (*P. carbo*). Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874.

Brown Pelican. Hatch, *Notes Bds. Minn.* 1892.

Harlequin Duck. Hatch, *Notes Bds. Minn.* 1892.

King Eider. Hatch, *Notes Bds. Minn.* 1892.

White-cheeked Goose. Peabody, *Nidologist* 2, 1895.

Brant. Head, *Ninth Ann. Rep. Smith. Inst.* 1855. Hatch, *Notes Bds. Minn.* 1892.

Black Brant. Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874; and *Notes Bds. Minn.* 1892.

Glossy Ibis (*P. autumnalis*). Barrows, *Mich. Bird Life* 1912.

Snowy Egret. Hatch, *Bull. Geol. Nat. Hist. Sur. Minn.* 1881; and *Notes Bds. Minn.* 1892.

Yellow-crowned Night Heron. Hatch, *Notes Bds. Minn.* 1892.

Black Rail. Hatch, *Notes Bds. Minn.* 1892.

- Purple Gallinule.** *Wis. Nat.*, 1, 1891.
- Red Phalarope.** Hatch, *Bull. Geol. Nat. Hist. Sur. Minn.* 1881; and *Notes Bds. Minn.* 1892.
- Black-necked Stilt.** Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874; and *Notes Bds. Minn.* 1892.
- Dowitcher** (*M. g. griseus*). Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874. Anderson, *Birds Iowa* 1907.
- Black Vulture.** Brackett, *Jour. Boston Zool. Soc.* 1884.
- Mississippi Kite.** Brackett, *Jour. Boston Zool. Soc.* 1884.
- Richardson's Pigeon Hawk.** Hatch, *Bull. Minn. Acad. Nat. Sci.* 1876; and *Notes Bds. Minn.* 1892.
- Western Wood Pewee.** Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874.
- Acadian Flycatcher.** Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874.
- Fish Crow.** Hatch, *Bull. Geol. Nat. Hist. Sur. Minn.* 1881; and *Notes Bds. Minn.* 1892.
- Western Vesper Sparrow.** Roberts and Benner, *Bull. Nutt. Ornith. Club.* 1880.
- Northern Violet-green Swallow.** Hatch, *Bull. Geol. Nat. Hist. Sur. Minn.* 1881.
- White-eyed Vireo.** Trippe, *Com. Ess. Inst.* 1871. Hatch, *Notes Bds. Minn.* 1892.
- Bell's Vireo.** Hatch, *Bull. Minn. Acad. Nat. Sci.* 1874; and *Notes Bds. Minn.* 1892.
- Worm-eating Warbler.** Cantwell, *Ornith. and Ool.* 1890.
- Sycamore Warbler.** Currier, *Auk*, 1904.
- Kentucky Warbler.** Cooke, *Dist. and Migr. N. A. Warblers*, 1904.
- Hooded Warbler.** Cantwell, *Ornith. and Ool.* 1890. Hatch, *Notes Bds. Minn.* 1892.
- Carolina Wren.** Pratten, *Owens Geol. Sur. Wis., Ia. and Minn.* 1852. Hatch, *Notes Bds. Minn.* 1892.
- Bewick's Wren.** Trippe, *Com. Ess. Inst.* 1871. Hatch, *Notes Bds. Minn.* 1892.
- Western Robin.** Hatch, *Notes Bds. Minn.* 1892.
- Western Bluebird.** Hatch, *Bull. Geol. Nat. Hist. Sur. Minn.* 1881; and *Notes Bds. Minn.* 1892.

MINNESOTA BIRD LAWS

The section of the Minnesota Game Laws for 1917-1918 that deals with the general protection of our wild bird-life and defines what is meant by Game Birds is as follows:

"Harmless Birds—Game Birds Defined. No person shall catch, take, kill, ship or cause to be shipped to any person within or without the state, purchase, offer or expose for sale, sell to any one, have in possession with intent to sell, or have in possession or under control at any time, living or dead, any wild bird other than a game bird, nor any part thereof, and for the purposes of this chapter the following only shall be considered game birds:

"The family Anatidae, commonly known as swan, geese, brant, river and sea ducks; the family Rallidae, including rails, gallinules and coots; the order Limicolae, commonly known as plover, snipe and woodcock; the order Gallinae, commonly known as grouse, prairie chickens, pheasants, partridges and quail; the order Columbae, or pigeons and doves; provided that blackbirds, crows, English sparrows, sharp-shinned hawks, goshawks and Cooper hawks and great horned owls may be killed and had in possession at any time; and provided further that any birds may be killed or destroyed under authority of the Game and Fish Commissioner when they are found to be destroying or injuring game birds on state game farms or state game refuges, or destroying or injuring fish in state fish hatcheries; but nothing herein contained shall be construed to prevent the keeping and sale of song birds as domestic pets."

The following provisions, establishing special closed seasons, are incorporated in the Game Laws of 1917-1918:

"No mourning dove, snipe (other than Wilson or jack snipe and greater and lesser yellow-legs), woodcock, upland plover or golden plover shall be taken, killed or had in possession before September 16, 1920." "No partridge or ruffed grouse, or Chinese, ringneck or English pheasant shall be killed or had in possession before the fifteenth (15th) day of October, 1920." "No wood duck shall be taken, killed or had in possession before September 16, 1920."

The following provision is made for the protection of the nests and eggs of our wild birds:

*"Nests and Eggs—*No person shall at any time take or have in possession or under control, break up or destroy or in any manner interfere with any nest, or the eggs of any of the kinds of birds, the killing of which is at any or all times prohibited."

Permission to collect for scientific purposes may be granted under the following conditions:

Paragraph 4771. * * * * "and may also grant permission under the seal of said Commissioner, to any accredited representative of any incorporated society of natural history, college or university, to collect for scientific purposes only, nests, eggs, birds, animals or fish protected by law, and may also grant permission under

seal to any municipal corporation maintaining an established zoological collection under proper care, to procure specimens of animals or birds protected by law, for such zoological collection."

To meet the requirements of the new Migratory Bird Treaty Act with Great Britain, it is now necessary to obtain an additional permit from the Secretary of the U. S. Department of Agriculture, if it is desired to collect birds, nests, or eggs protected by that Act.



Young Tree Swallows and nesting hole

THE FEDERAL MIGRATORY BIRD LAW AND THE MIGRATORY BIRD TREATY ACT

What has been commonly known as the Migratory Bird Law was an enactment of the U. S. Congress. After stating the now legally established principle that birds that regularly migrate beyond state limits are the property of the United States, this law places such birds under the protection of the Federal Government. The act was approved by President Wilson and became a law on March 4, 1913. Later an agreement in the form of a treaty was proposed with Great Britain, which had for its object securing the coöperation of Canada, thus insuring the easier and more complete operation of this bird legislation on a large scale. This treaty was finally accepted and ratified by all parties concerned, being concluded at Washington, August 16, 1916, approved July 3, 1918, and made effective July 31, 1918, by proclamation of the President of the United States, which brought to full fruition a quarter-century struggle in behalf of our birds and mankind by many tireless workers. This treaty or convention with Great Britain is to be known as the "Migratory Bird Treaty Act."

As showing just what are considered migratory birds under the terms of this Act, the following extract will be of interest to Minnesota bird students:

"REGULATION 1.—DEFINITIONS OF MIGRATORY BIRDS

Migratory birds, included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, are as follows:

1. *Migratory game birds:*

- (a) Anatidae, or waterfowl, including brant, wild ducks, geese, and swans.
- (b) Gruidae, or cranes, including little brown, sandhill, and whooping cranes.
- (c) Rallidae, or rails, including coots, gallinules, and sora and other rails.
- (d) Limicolae, or shorebirds, including avocets, curlews, dowitchers, godwits, knots, oyster catchers, phalaropes, plovers, sandpipers, snipe, stilts, surf birds, turnstones, willet, woodcock, and yellowlegs.
- (e) Columbidae, or pigeons, including doves and wild pigeons.

2. *Migratory insectivorous birds:* Bobolinks, catbirds, chickadees, cuckoos, flickers, flycatchers, grosbeaks, hummingbirds, kinglets, martins, meadowlarks, nighthawks or bull-bats, nuthatches, orioles, robins, shrikes, swallows, swifts, tanagers, titmice, thrushes, vireos, warblers, waxwings, whip-poor-wills, woodpeckers, and wrens, and all other perching birds which feed entirely or chiefly on insects.

3. *Other migratory nongame birds:* Auks, auklets, bitterns, fulmars, gannets, grebes, guillemots, gulls, herons, jaegers, loons, murre, petrels, puffins, shearwaters, and terns."

Provision is made for the protection of property from damage that may be done by protected species under certain conditions by the following regulation:

"REGULATION 10.—PERMITS TO KILL MIGRATORY BIRDS INJURIOUS TO PROPERTY

When information is furnished the Secretary that any species of migratory bird has become, under extraordinary conditions, seriously injurious to agriculture or other interests in any particular community, an investigation will be made to determine the nature and extent of the injury, whether the birds alleged to be doing the damage should be killed, and, if so, during what times and by what means. Upon his determination an appropriate order will be made."

This migratory bird legislation is operative through the now legally established principle that birds that regularly migrate beyond state limits are the property of the United States and thus come under the protection of the Federal Government. Non-migratory birds are the property of the state in which they live and state legislation alone deals with them. Where state and federal laws conflict, the latter take precedence.



Young Bluebirds

WILD-LIFE REFUGES IN MINNESOTA

As an important factor in the present nation-wide effort to check the decrease in wild animal life that has been going on so rapidly in recent years, it has been found expedient to set aside selected areas of land and water of variable extent, within the confines of which it is unlawful to destroy or molest desirable wild creatures. These tracts are called *Refuges* and are intended to be resting and feeding places for migrants or peaceful havens wherein wild things may live, make their homes, and multiply, free from persecution. The Federal Government, the National Association of Audubon Societies, the Canadian Government, and most of the states of the Union have taken an active part in this work and the combined areas that have in this way been consecrated to the use of the wild birds and other animals of North America make a grand total of many thousands of square miles. The beneficial results are already very great, especially in conserving the water birds along the sea coasts and the big game animals in the interior.

Minnesota has been doing her part along this line and much wise and productive legislation has been enacted. Wild-life refuges, or game refuges as they are more commonly called, are of two kinds in Minnesota, according to the degree of protection afforded. *First*, those within which it is forbidden to take or kill any mammal or bird of any kind at any time or to carry firearms with intent to kill. Such a refuge is a real nature sanctuary if the law be enforced. Itasca State Park, with its increasing wealth of wild animal life, is an instructive example of an ideal refuge of this kind. *Second*, those within which it is forbidden to take or kill any mammal or bird protected by law at any time; that is there is no open season for any game mammal or bird within such a refuge, but the law does not prevent the hunting of unprotected species.

In the first class are included all state Public Parks with an encircling area one-half mile wide; all refuges that may be established by the Game and Fish Commissioner in accordance with a state law where *all* the land owners therein have petitioned for such action; refuges on government land designated as such by the Federal Government; and a belt three miles wide immediately outside of the limits and completely encircling cities of fifty thousand or more population. Cities and towns and included

public parks where ordinances prohibiting the use of firearms exist and are enforced may also be included in this class.

In the second class are included all State Forest Reservations; and refuges established by the Game and Fish Commissioner in accordance with a state law where only a part of the land owners therein have petitioned for such action. Refuges of this latter kind can not be less than 640 acres in extent. Within refuges of this class unprotected mammals and outlawed birds can be hunted and killed at any time, which permits of more or less shooting and disturbance, so that, even if protected species are not occasionally surreptitiously killed, freedom from annoyance is not complete. However, such protection is far better than none and thorough policing will greatly reduce the possible evils.

Numerous private refuges, consisting of the estates of one or more individuals have been voluntarily formed. These are protected by the usual laws relating to trespass after proper warning signs have been posted.

On January 1, 1916, there was established a farm for breeding game birds on Big Island, Lake Minnetonka, by the Minneapolis Branch of the Minnesota Game Protective League. The Twin City Rapid Transit Company generously donated the use of the island and the services of a keeper. The enterprise was conducted by the League and financed by contributions from its members, until, on May 1, 1917, it was taken over entirely by the State Game and Fish Commission. This game farm is now, therefore, a state activity as it rightly should be and after the good beginning made, and the hard work done by the League it is hoped that the state will adequately support and expand it, as in its success lies very largely the possibility of restocking the depleted coverts and waters of the state with valuable game birds.

Through the courtesy of Mr. Carlos Avery, Commissioner of Game and Fish, I am able to present the following list of Minnesota Game Refuges with the approximate area of each, complete to January 1, 1919. This list shows that there are in the state at present thirty-three Refuges and one Federal Bird Reserve. The latter is a tiny rocky islet, known as Spirit Island, situated in the southern end of Lake Mille Lacs. It is the nesting place of a colony of Common Terns (called locally "gulls") and a considerable number of Purple Martins, to protect which the island was set aside by the United States Government as a Bird Reserve.

Another similar island in Lake Mille Lacs, called Hennepin Island, is equally entitled to such distinction for exactly the same reasons.

The eight Refuges listed as State Parks are, under the law, absolute wild-life sanctuaries as are also four of the other Refuges, as they were established by the Game and Fish Commissioner on petitions from all of the land owners therein. These four are the Ramsey County, St. Croix River, Martin County, and Morrison County Refuges.

The remaining Refuges and the State Forests afford uninterrupted protection for all game animals as there are no open seasons within their limits, but there are no restrictions upon hunting and killing unprotected mammals and birds.

The total area of land in the state of Minnesota that has been set aside for the conservation of its wild-life resources reaches already the considerable figure of 1,941,413 acres. This is approximately 3.6 per cent of the state and if gathered together in a single piece would make a tract of 3,033 square miles—nearly one and one half times the size of the state of Delaware. This is certainly an excellent beginning, but with a cause so urgent it is to be hoped that many more such protected areas will be called for in the near future. Minnesota is so large that very numerous tracts can be thus segregated without seriously infringing upon the privileges or liberties of anyone, and future generations will appreciate and praise the wisdom of those who have inaugurated and put into effect the present movement. At least the attempt on a large scale is worth while, as there is no other plan that holds out a promise of equally good results.



Horned Lark

**A LIST OF MINNESOTA GAME AND WILD-LIFE REFUGES, WITH
APPROXIMATE AREA OF EACH COMPLETE
TO JANUARY 1, 1919**

Game Refuges

Superior Game Refuge.....	1,290,000	acres
Minnnetonka Game Refuge.....	69,000	"
Itasca County Game Refuge.....	69,120	"
Minnesota River Game Refuge.....	15,000	"
Beltrami County Game Refuge.....	12,800	"
Waseca County Game Refuge.....	23,360	"
Polk County Game Refuge, No. 1.....	83,840	"
Polk County Game Refuge, No. 2.....	7,040	"
Nicollet County Game Refuge.....	13,680	"
Roseau County Game Refuge.....	46,080	"
Pine County Game Refuge.....	115,840	"
Winona County Game Refuge, Wiscoy Valley.....	8,425	"
Winona County Game Refuge, Gilmore Valley.....	2,580	"
St. Louis County Game Refuge, T. 60-20 and T. 59-20.....	46,080	"
St. Louis County Game Refuge, T. 57-19 and part of T. 57-20....	30,720	"
St. Louis County Game Refuge.....	21,760	"
Morrison County Game Refuge, No. 1.....	16,000	"
Kandiyohi County Game Refuge.....	10,740	"
Anoka County Game Refuge.....	2,000	"

Wild-Life Refuges

Ramsey County Wild-Life Refuge.....	5,000	"
St. Croix River Wild-Life Refuge (Washington County).....	3,000	"
Martin County Wild-Life Refuge.....	760	"
Morrison County Wild-Life Refuge, No. 2.....	1,060	"

State Forests (Also Game Refuges)

Burntside State Forest.....	20,000	"
Pillsbury State Forest.....	1,000	"

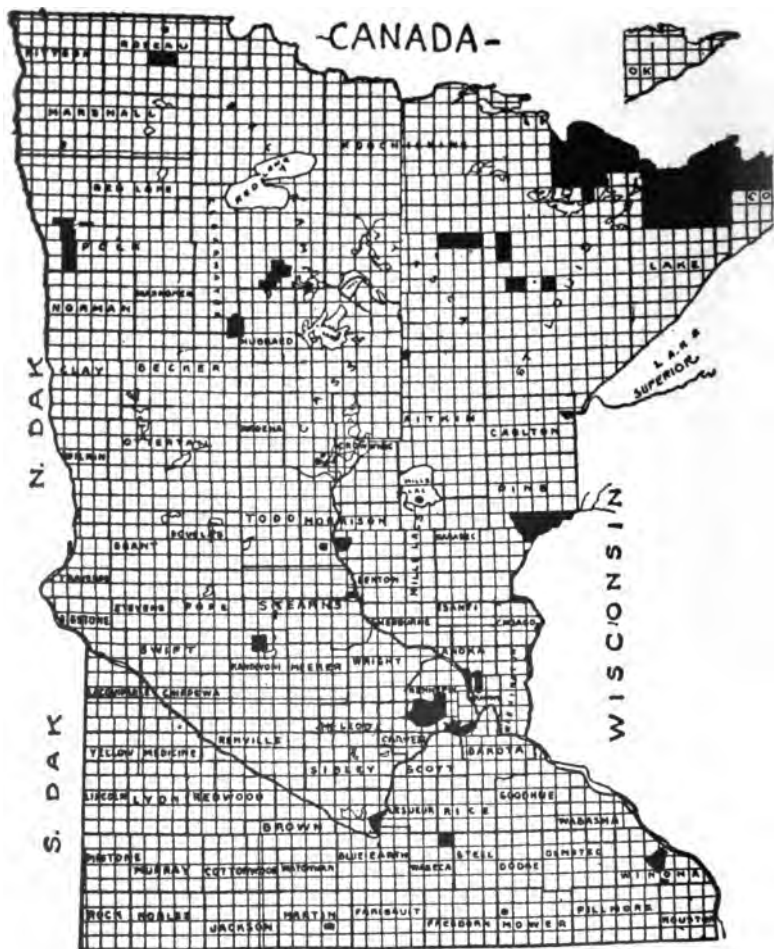
State Parks (Also Wild-Life Refuges)

Itasca State Park.....	22,000	"
Jay Cooke State Park.....	4,000	"
Fort Ridgley State Park.....	160	"
Minneopa State Park.....	114	"
Interstate State Park.....	110	"
Ramsey State Park.....	80	"
Austin State Park.....	50	"
Camp Release State Park.....	12	"

Federal Bird Reserve

Spirit Island Bird Reserve (Mille Lacs County).....	2	"
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Total..... 1,941,413 acres



Map of Minnesota showing location of Game and Wild-Life Refuges. Prepared by Mr. Carlos Avery, Commissioner of Game and Fish

OUTLAWED AND QUESTIONABLE BIRDS

Minnesota is provided with good and comprehensive laws for the protection of its birds. In the case of those species specified as Game Birds, open seasons are stipulated when such birds may be shot under certain restrictions. All other birds are protected throughout the year with the exception of the following, which are considered to do more harm than good.

Cooper's Hawk

Sharp-shinned Hawk

Goshawk

Great Horned Owl

Crow

Red-winged Blackbird

Yellow-headed Blackbird

Bronzed Grackle or Crow Blackbird

Rusty Blackbird

Brewer's Blackbird

House Sparrow or English Sparrow

There are a few other birds that sometimes do sufficient damage, collectively or individually, to bring them into more or less disrepute. Only one or two of these are open to general condemnation. The others are far more beneficial than injurious, and should never be molested except under the greatest provocation. They are all protected by existing laws and if occasion arises when it seems necessary to destroy any of them to arrest local depredations, permission should be sought of the Commissioner of Game and Fish, Capitol Building, St. Paul. It is well established that certain individuals of ordinarily beneficial species acquire bad habits that render them obnoxious, and it may appear necessary at times to put such culprits out of the way. But it is better in the long run to be patient and put up with moderate losses of fruit, vegetables, and fish than to destroy too hastily birds that are generally useful and attractive.

Double-crested Cormorant, BLACK LOON. Its fish diet sometimes brings it into disfavor; but the fish it catches are for the most part non-game fish and its presence about our lakes lends an attractive feature.

Great Blue Heron. Same as the Cormorant. Crayfish, frogs, snakes, meadow mice, etc., form a considerable part of its diet.

Hawks and Owls other than those included in Outlawed List. All hawks and owls are almost universally considered legitimate prey for the gun and steel trap. If some men are murderers, shoot all men on sight. It is true that several of the larger kinds of protected hawks and owls do kill an occasional useful wild bird or farmer's chicken, but as a group, big and little, they constitute the chief agency provided for keeping in subjection a horde of wild mice, injurious rodents of many kinds, innumerable destructive insects, snakes, etc., that otherwise would defy all restraint and do incalculable damage.

Belted Kingfisher. This bird may perhaps have to be eliminated at times about fish hatcheries, but otherwise it is an attractive feature of lake shores and waterways.

Sapsucker or Yellow-bellied Woodpecker. Little can be honestly said in behalf of this handsome culprit. Were it not for the confusion that might arise with its most valuable kinsfolk, this bird would deserve an honored place among the "outlaws."

Red-headed Woodpecker. Has a fondness for the smaller cultivated fruits and sometimes destroys the nests, eggs, and young of other birds; but it much more than makes up for these occasional delinquencies by consuming large quantities of injurious insects.

Kingbird. Is sometimes called the "Bee-bird" and held to account for catching honey bees; but is to be considered one of our valuable insect destroyers.

Blue Jay. A bird of omnivorous feeding habits, the Jay not infrequently robs birds' nests of both eggs and young. But on the whole the damage done is not great and the beautiful plumage, the familiar habits, and the enlivening presence of the Jay throughout the coldest winter weather, entitle it to favorable consideration.

Baltimore Oriole. The small-fruit- and pea-eating habits of this beautiful bird are unimportant in comparison with its otherwise general desirability.

Rose-breasted Grosbeak. This bird has a strong predilection for green peas, which it shells out adroitly as fast as they fill the pods. But this failing should be prevented or overlooked, for the offender is among our most valuable insect destroyers and ranks high in song and beauty. Its special fondness for potato bugs and their larvae has earned for it the name of "Potato-bug Bird."

Cedar Waxwing. Eats small fruits and pulls the petals from the blossoms of fruit trees, but should be protected on account of its valuable insectivorous habits.

Shrikes, "Butcher-birds." The shrikes are passerine "birds of prey." They kill a few small birds, but their food consists chiefly of mice, shrews, snakes, lizards, and large insects such as grasshoppers and locusts, and they are to be regarded as beneficial birds.

Catbird. A common and sometimes serious destroyer of small garden fruits. Particularly troublesome birds may have to be disposed of; but on the whole it is an important insectivorous bird.

Robin. There has been much discussion as to the real economic status of this familiar and generally beloved bird. When present in numbers, they often do no inconsiderable damage in gardens, orchards, and vineyards, marring and rendering unsaleable much that they do not consume. Under such conditions it is only reasonable that the surplus should be disposed of, and a properly constituted official should be empowered to take action in such cases. On the other hand the Robin consumes a very large number of the most injurious insects, being one of the chief enemies of the dreaded white grubs or cockchafer larvae.



Young Yellow-headed Blackbirds

AN ABRIDGED BIBLIOGRAPHY OF MINNESOTA ORNITHOLOGY

From a bibliography of Minnesota ornithological literature aggregating nearly 1,500 titles, the following have been chosen as best illustrating the development of the bird-lore of the state. Preference has been given to articles adding new material, and publications of a general nature or dealing only with the habits or local occurrence of species have been omitted. The chronological sequence by years has been adopted rather than an alphabetical arrangement as illustrating the historical aspect of the subject. The authors' names will reveal those who have played the principal part in developing the ornithology of Minnesota. In this particular there is, however, one important exception, for the name of Dr. J. C. Hvoslef of Lanesboro, Fillmore County, does not appear. For many years Dr. Hvoslef has been a most zealous and accurate observer of the birds of southeastern Minnesota, but his great modesty has prevented his publishing first-hand the results of his work. The Biological Survey in Washington and various Minnesota bird students have been the recipients of his copious field notes, and his name appears second-hand in many connections as authority for original and valuable records.

Citations of general works on ornithology containing Minnesota references have been omitted, as also have references to the journals and writings of early explorers and travellers in this region, which not infrequently contain interesting bird matter, as they belong more properly in an extended bibliography. However, one publication of the latter class should perhaps receive brief mention—Keating's *Narrative of the Major Long Expedition*, which in 1823 explored the country (now included in Minnesota) from Fort Snelling to Lake Traverse and thence north to the Canadian boundary. Much definite and interesting bird matter is scattered through the two volumes of this narrative, resulting probably from observations made by Thomas Say, the entomologist, who accompanied the expedition.

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Nest, eggs, and young of the Black-billed Cuckoo

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Florida Gallinule Chick



Black Tern, nest and eggs



Nest and eggs of the Mallard Duck



Black Tern, nest and eggs



Nest and eggs of the Mallard Duck



Nest and eggs of the Canvas-back Duck



Nest and eggs of the Bob-white or Quail



Nest and eggs of the Ruffed Grouse



The Passenger Pigeon

Photograph of a group in the Survey Museum, University of Minnesota. Upper bird, male; lower bird, female. The nest is a real nest of the Passenger Pigeon, collected near Minneapolis in 1874. This bird laid only one egg but nested several times each season



Nest and young of the Broad-winged Hawk

A garter snake, seen hanging over the left side of the nest, was brought by one of the parents as food for the young birds



A pair of young Sparrow Hawks just shedding the natal down



Young Screech Owl



**A Ruby-throated Hummingbird drinking sap from punctures made by the Sapsucker
in the under side of a leaning poplar tree**



**Sapsucker or Yellow-bellied Woodpecker drinking sap from punctures it has made
in a mountain ash tree**



Young Downy Woodpeckers and nesting hole



Whip-poor-will on its nest



Nest and eggs of the Whip-poor-will



Oven-bird's nest, containing one egg of the owner and three of the Cowbird



Yellow Warbler's nest, containing three eggs of the owner and one of the Cowbird



Chipping Sparrow's nest, containing two young of the owner and one young Cowbird



Same young birds as above out of the nest



Nest of Indigo Bunting containing only a young Cowbird



A three-storied nest of the Yellow Warbler with Cowbird's eggs buried in the lower nests. In building these superimposed nests, the Warbler avoids hatching the Cowbird's eggs but sometimes sacrifices at the same time her own as in the lower nest above



A double nest of the Yellow Warbler

Photograph of an exhibit in the Survey Museum, University of Minnesota. There were three eggs of the Warbler and one of the Cowbird in the lower nest though only two eggs are visible through the opening cut in the side of the original nest



Male Junco and young



Snow Buntings and Redpolls
Photograph of a group in the Survey Museum, University of Minnesota



Cedar Waxwing, nest, and young



Young Cedar Waxwings

The two birds on the end of the branch exhibit at this early age the "freezing" attitude commonly assumed by the adults as a means of concealment



Red-eyed Vireo and nest



Male Pine Warbler, nest, and young



Young Black-capped Chickadees and nesting hole in a birch stump



**Black-capped and Hudsonian Chickadees, Downy Woodpecker, and
White-breasted Nuthatch**
Photograph of a group in the Survey Museum, University of Minnesota



Catbird and its nest



White-breasted Nuthatch at window feeding counter



Blue Jay at window feeding counter



Downy Woodpecker at window feeding counter

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ADDENDUM

The foregoing paper was written during the summer and early fall of 1918, and as the result of unavoidable delay in printing, the section dealing with the game laws of the state is now out of date, owing to the passage of a new game law by the state Legislature in April, 1919. It is too late to rewrite the chapter but the following notes will suffice to indicate the principal changes of interest to bird students.

The new bill is entitled an "Act to Amend, Supplement, Revise, Consolidate and Codify the Laws of This State Relating to the Preservation, Protection and Propagation of Wild Animals, Including Quadrupeds, Birds and Fish of Both This and Other States, and to Repeal Certain Laws Relating Thereto." It is specified that it shall be known as the "Law of Minnesota Relating to Wild Animals." This statute, as introduced, was the work of a commission appointed by the Governor, as directed by the Legislature in 1917. In both general arrangement and wording the present law differs considerably from the old law, but the intent and provisions in its various parts are, in the main, the same.

In Part IV, devoted to Birds, are to be found the following changes, intended, in some instances, to bring the state law into accord with the Federal law:—

WOODCOCK. Closed period extended to Oct. 1, 1920.

UPLAND PLOVER. Closed period extended to Sept. 16, 1927.

PRAIRIE CHICKEN. Closed period established until Sept. 16, 1922.

SHARP-TAILED GROUSE. Same as Prairie Chicken.

RUFFED GROUSE. Closed period to Oct. 15, 1920 and thereafter they may be killed "only in even numbered years."

RING-NECKED or ENGLISH PHEASANT (male). Same as Ruffed Grouse.

WOOD DUCK. Closed period extended to Sept. 16, 1923.

At the request of the National Association of Audubon Societies and the Biological Bureau of Washington a provision against the sale of plumage, in support of the Federal law, was incorporated in the present state law. It reads as follows:—

"Sec. 65. **CERTAIN WILD BIRDS PROTECTED**—Wild birds, other than the English sparrow, blackbird, crow, sharp-shinned hawk, Cooper hawk, goshawk, and great horned owl, shall not be taken or possessed at any time, dead or alive, except under the authority of a certificate issued by the commissioner. No part of the plumage, skin or body of any bird protected by this section, or of any birds coming from without the state, whether belonging to the same or a different species from that native to the state of Minnesota, provided such birds belong to the same family as those protected by this chapter, shall be bought, sold or had in possession for sale. This section shall not apply to game birds for which an open season is provided in this chapter, nor to the keeping and selling of parrots or song birds as domestic pets, provided that nothing herein shall be construed to permit the buying or selling of wild song birds."

Under the provision of the new law (Sec. 120) permits to collect birds, nests, and eggs for scientific purposes are to be issued by the commissioner only to "any municipal corporation, incorporated society of natural history, college or university, maintaining a zoological collection." This is even more stringent than the old law and is unnecessary, unwise, and not in accordance with the present liberal policy of the U. S. Department of Agriculture under the provisions of the Migratory Bird Treaty Act. There is no valid reason why properly accredited and capable citizens should not be legally permitted to carry on individual investigations. The U. S. Department of Agriculture is issuing permits to such persons, but they are useless in states having such provisions as the above and much unfortunate irritation and disappointment results, with the loss of valuable and needed effort by really capable collectors who for various reasons can not be connected with scientific institutions. An ornithologist must be a collector at some time in his career. If personal collecting is not to be allowed, there will soon be very few if any trained ornithologists, and this will be a distinct economic and educational loss to the commonwealth. The thousands of hunters are no more entitled to their annual licenses to kill for sport and food than are the few worthy students of birds to legal permission to carry on their investigations in the only way that will give accurate and valuable results. The destruction of life by the latter class is as nothing compared with the thousands of birds killed annually by sportsmen and it is now known that game birds have an economic importance, aside from their value as food, quite comparable with that of the non-game birds.

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